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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/900,145	07/09/2001	Michael Byrne	1817-0112P	4308
2292	7590	05/10/2004	EXAMINER	
BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747			MAI, TAN V	
		ART UNIT		PAPER NUMBER
		2124		2
DATE MAILED: 05/10/2004				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	09/900,145	BYRNE ET AL.
	Examiner Tan V Mai	Art Unit 2124

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 09 July 2001.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-101 is/are pending in the application.
 - 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) 15-23,49-59,68,74,86,92 and 98 is/are allowed.
- 6) Claim(s) 1,11-14,24-29,41-48,60-66,69-72,75-84,87-90,93-96 and 99-101 is/are rejected.
- 7) Claim(s) 2-10,30-40,67,73,85,91 and 97 is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____.
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
	6) <input type="checkbox"/> Other: _____.

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1. The abstract of the disclosure is objected to because superfluous language is used in this paragraph (i.e., "comprising" and "comprises"). Also, the Abstract contains the undefined acronym "ALU". All such acronyms should be defined at the instance of their first use within the Abstract. Correction is required. See MPEP § 608.01(b).
2. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.
3. Claims 27-28, 41, 48, 60, 64-65 and 78-83 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As per claims 27-28 and 64-65, the terms "may be" are indefinite.

As per claims 41, 48, 60 and 78-83, the terms "carrier signal" are misdescriptive because the "carrier signal" is NOT a "memory element".

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1, 12, 29 and 43 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Vahlstrom et al.

Vahlstrom et al teach, e.g., see Figs. 1-2 & col. 1, lines 12-56, a computer having CPU. It implies that the ALU of the CPU is capable of processing at least two data words to provide a new data word. The CPU also has the "rotating" feature for

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reordering the content of data word(s). Therefore, Vahlstrom et al teach the claimed combination.

6. Claims 1, 12, 29 and 43 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Methvin et al '864.

Methvin et al disclose, e.g., see Fig. 17, a processor having an ALU. It implies that the ALU is capable of processing at least two data words to provide a new data word. The ALU also has the "rotating" feature for reordering the content of data word(s). Therefore, Methvin et al teach the claimed combination.

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 13-14, 44-48, 66, 72, 78, 84, 89-90 and 96 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vahlstrom et al.

Vahlstrom et al have been discussed in paragraph 5 above.

As per dependent claim 13, the claim adds the "switching operation is performed on one of the data words before an ALU operation is performed on that data word and another data word." It is clearly Vahlstrom et al 's computer is capable of providing the claimed invention.

As per dependent claim 14, the claim adds the "ALU operation is performed on the two data words to produce another data word and then switching operation is

performed on the other data word". It is clearly Vahlstrom et al 's computer is capable of providing the claimed invention.

Due to the similarity of claims 44-45 to claims 13-14, they are rejected under a similar rationale.

As per dependent claims 46-48, 66, 72, 78, 84, 89-90 and 96, the claims add "software program", "storage means" and "program instructions" features. These features are well known in the art at the time the invention was made.

9. Claims 11, 24-28, 42, 61-65, 69-71, 75-77, 81-83, 87-89, 93-95 and 99-101 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vahlstrom et al in view of Nakai et al.

Vahlstrom et al have been discussed in paragraphs 5 & 8 above.

As per dependent claim 11, the claim adds "cross-wiring techniques"; however, the feature s old and well known in the art. For example, Nakai et al disclose a device comprising "variable bit reverse circuit" having "cross-wiring techniques" (e.g., see Figs. 8-12). It would have been obvious to a person having ordinary skill in the art at the time the invention was made to combine Nakai et al's "cross-wiring techniques" in Vahlstrom et al, thereby making the claimed invention, because the proposed device is an ALU having "switching operation" using "cross-wiring techniques" as claimed.

Due to the similarity of independent claims 24, 27-28, 42, 61 and 64-65 to claim 11, they are rejected under a similar rationale.

Due to the similarity of claims 25-26 and 62-63 to claims 13-14, they are rejected under a similar rationale.

Due to the similarity of claims 69-71, 75-77, 81-83, 87-89, 93-95 and 99-101 to claims 46-48, 66, 72, 78, 84, 89-90 and 96, they are rejected under a similar rationale.

10. Claims 13-14, 44-48, 66, 72, 78, 84, 89-90 and 96 are rejected under 35 U.S.C. 103(a) as being unpatentable over Methvin et al.

Methvin et al have been discussed in paragraph 6 above.

As per dependent claim 13, the claim adds the "switching operation is performed on one of the data words before an ALU operation is performed on that data word and another data word." It is clearly Methvin et al 's processor is capable of providing the claimed invention.

As per dependent claim 14, the claim adds the "ALU operation is performed on the two data words to produce another data word and then switching operation is performed on the other data word". It is clearly Methvin et al 's processor is capable of providing the claimed invention.

Due to the similarity of claims 44-45 to claims 13-14, they are rejected under a similar rationale.

As per dependent claims 46-48, 66, 72, 78, 84, 89-90 and 96, the claims add "software program", "storage means" and "program instructions" features. These features are well known in the art at the time the invention was made.

11. Claims 11, 24-28, 42, 61-65, 69-71, 75-77, 81-83, 87-89, 93-95 and 99-101 are rejected under 35 U.S.C. 103(a) as being unpatentable over Methvin et al in view of Nakai et al.

Methvin et al have been discussed in paragraphs 6 & 10 above.

As per dependent claim 11, the claim adds "cross-wiring techniques"; however, the feature is old and well known in the art. For example, Nakai et al disclose a device comprising "variable bit reverse circuit" having "cross-wiring techniques" (e.g., see Figs. 8-12). It would have been obvious to a person having ordinary skill in the art at the time the invention was made to combine Nakai et al's "cross-wiring techniques" in Methvin et al, thereby making the claimed invention, because the proposed device is an ALU having "switching operation" using "cross-wiring techniques" as claimed.

Due to the similarity of independent claims 24, 27-28, 42, 61 and 64-65 to claim 11, they are rejected under a similar rationale.

Due to the similarity of claims 25-26 and 62-63 to claims 13-14, they are rejected under a similar rationale.

Due to the similarity of claims 69-71, 75-77, 81-83, 87-89, 93-95 and 99-101 to claims 46-48, 66, 72, 78, 84, 89-90 and 96, they are rejected under a similar rationale.

12. Claims 2-10, 30-41, 67, 73, 79, 85, 91 and 97 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 60 & 80 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Cited references are art of interest.

14. The following is an examiner's statement of reasons for allowance: the recorded references do NOT teach or suggest the method / processor having "mirror data word" feature as recited in dependent claims 2 & 30 and independent claims 15 & 49.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tan V. Mai whose telephone number is (703) 305-9761. The examiner can normally be reached on Tue-Fri from 6:30am to 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kakali Chaki, can be reached on (703) 305-9662. The fax phone numbers for the organization where this application or proceeding is assigned are:

After-final	(703) 746-7238
Official	(703) 746-7239
Non-Official/Draft	(703) 746-7240.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.



TAN V. MAI
PRIMARY EXAMINER